

sequence identity to a nucleotide sequence of exon 1d of the human VDR gene, or fragment thereof, or
 ii) a nucleotide sequence encoding an amino acid sequence of exon 1d or fragment thereof.

2. **(Amended)** A polynucleotide molecule according to claim 1, wherein said nucleotide sequence further includes

- i) a nucleotide sequence having 95% or more sequence identity to a nucleotide sequence of, or encoding an amino acid sequence of, exon 1b or fragment thereof;
- ii) a nucleotide sequence having 95% or more sequence identity to a nucleotide sequence of, or encoding an amino acid sequence of, exon 1c or fragment thereof; or
- iii) a nucleotide sequence having i) and ii).

3. **(Amended)** A polynucleotide molecule according to claim 1, wherein the nucleotide sequence includes:

- (i) a sequence having 95% or more sequence identity to a nucleotide sequence of, or encoding an amino acid sequence of, of exons 1d, 1c and 2-9 and encodes a VDR isoform of approximately 477 amino acids,
- (ii) a sequence having 95% or more sequence identity to a nucleotide sequence of, or encoding an amino acid sequence of, of exons 1d and 2-9 and encodes a VDR isoform of approximately 450 amino acids, or
- (iii) a sequence having 95% or more sequence identity to a nucleotide sequence of, or encoding an amino acid sequence of, of exons 1d and 2-9 and further includes a 152bp intronic sequence and encodes a truncated VDR isoform of approximately 72 amino acids.

4. **(Amended)** A polynucleotide molecule according to claim 1, wherein the polynucleotide comprises a nucleotide sequence having 95% or more sequence identity to a nucleotide sequence of, or encoding an amino acid sequence encoded by, SEQ ID NO:2, SEQ ID NO:3 or SEQ ID NO:4.

9. A plasmid or expression vector including a polynucleotide molecule according to claim 1.

10. A host cell transformed with a polynucleotide molecule according to claim 1 or a plasmid or expression vector according to claim 9.

11. A host cell according to claim 10, wherein the cell is a mammalian cell.

12. A host cell according to claim 10, wherein the cell is a NIH 3T3 or COS 7 cell.

13. **(Amended)** A method of producing a VDR or VDR isoform polypeptide, or a fragment thereof, comprising culturing a host cell of claim 10 under conditions enabling the expression of the polynucleotide molecule and, optionally, recovering the VDR or VDR isoform polypeptide .

14. **(Amended)** A method according to claim 13, wherein the VDR or VDR isoform polypeptide, or a fragment thereof, is expressed onto the host cell membrane or other sub-cellular compartment.

21. **(Amended)** An isolated polynucleotide molecule comprising a nucleotide sequence showing greater than 75% sequence identity to

GTTTCCTTCTTCTGTCGGGGCGCCTTGGCATGGAGTGGAGGAATAAGAAA
AGGAGCGATTGGCTGTCGATGGTGCTCAGAACTGCTGGAGTGGAGG3' (SEQ ID NO:1)

22. **(Amended)** An isolated polynucleotide molecule comprising a nucleotide sequence showing greater than 85% sequence identity to

GTTTCCTTCTTCTGTCGGGGCGCCTTGGCATGGAGTGGAGGAATAAGAAA
AGGAGCGATTGGCTGTCGATGGTGCTCAGAACTGCTGGAGTGGAGG3' (SEQ ID NO:1)

23. **(Amended)** An isolated polynucleotide molecule comprising a nucleotide sequence showing greater than 95% sequence identity to

GTTTCCTTCTTCTGTCGGGGCGCCTTGGCATGGAGTGGAGGAATAAGAAA
AGGAGCGATTGGCTGTCGATGGTGCTCAGAACTGCTGGAGTGGAGG3' (SEQ ID NO:1)

24. **(Amended)** An isolated polynucleotide molecule comprising a nucleotide sequence of

GTTTCCTTCTTCTGTCGGGGCGCCTTGGCATGGAGTGGAGGAATAAGAAA
AGGAGCGATTGGCTGTCGATGGTGCTCAGAACTGCTGGAGTGGAGG3' (SEQ ID NO:1)

26. **(New)** An isolated polynucleotide having a sequence that is complementary to the sequence of the polynucleotide of claim 1.